JUMBO MINING CO.

6305 Fern Spring Cove
Austin, Texas 78730
(512) 346-4537

October 21, 1988

File: UtEH1021

State of Utah
Department of Health
Division of Environmental Health
288 No 1460 West
Salt Lake City, Utah 84116-0690

Attn: Don A. Ostler, P.E.
Executive Secretary
Utah Water Pollution Control Committee

Dear Mr. Ostler:

On July 13, 1988 we visited with Mr. Charlie Dietz of your staff, provided him with a copy of our Notice of Intent dated July 11, 1988, explained our intentions with respect to the purchase of Western States Minerals Corp. properties in the Drum Mountains, north west of Delta, Utah, and requested confirmation that, in general, our plan of operation with respect to the purchased properties was acceptable.

By letter dated July 21, 1988 you replied to our questions, indicating that our proposals to remove ore from existing heaps, crush, and restack it for additional leaching; and our proposal to add newly mined ore on top of existing heaps to a total height not to exceed 40 feet would be acceptable:

a. If the activity is limited to those heap leach pads whose construction was authorized by construction permits (that is heaps No.'s 1 through 5, as will be discussed below).

b. upon submittal and approval of plans and specifications to define the scope and details of the proposed project.

The first objective of this letter is to solicit your agreement that, in fact, heaps No.'s 4 & 5 were properly constructed together under permit dated March 16, 1984.

To substantiate this contention, we point to the following facts:

1) The permitted area, 13.25 acres, closely matches the combined area of the heaps internally designated by Western as No.'s 4 & 5. An explanation of the numbering is derived from operational factors. Due to the large size of this heap, it was not practical to attempt to sprinkle the entire area simultaneously. Thus, Western divided the sprinkling system approximately in half and for record keeping purposes, designated one part as No. 4 and the other as No. 5.

2) There is no evident physical separation between the two heaps. Ore which was placed on the common heap area, appears to have been been placed from the SAME loading ramps, during the SAME period of time, starting in April-June, 1985. The record shows that other, unpermitted

heaps were constructed during periods of time separated by more than six months from the start of this one large heap, and that the March 16, 1984 permit could logically apply to no other heap.

3) Since both portions of the heap were constructed at the same time, the State was afforded the same rights of inspection during construction on that portion of the heap subsequently designated as No. 5 as it had on the portion designated No. 4.

4) It is our belief that the consultants (SRK) were not alerted to the confusing nomenclature by Western when they were called in after being absent from the scene for a number of years, and that Western (believing that they would shortly sell the properties) displayed the same lack of attention to detail on this matter as they did on the permitting of other heaps. Thus, the operational names of the first four numbered heaps were allowed to enter the records as being the same as the permit designations, pushing one half of the fourth permitted heap into the "unpermitted" category, for no other reason than its operational name designation as No. 5.

4) Finally it is our contention that the confusion of names described above does not constitute a valid reason for including one-half of the 4/5 heap in the "non-permitted" category, and/or otherwise restricting the legitimate continued leaching of this heap as contemplated by the March 16, 1984 permit.

The second purpose of this letter is to submit our plans and specifications for the removal, crushing, and replacement of ore onto existing heaps, and to stack newly mined ore onto existing permitted heaps. These plans are attached hereto, separated into the appropriate subdivisions.

Pursuant to our telephone conversation last week, this letter will be hand delivered to Charlie Dietz on Monday, October 24th so that we may have an oportunity to verbally answer any further questions which might arise.

Very truly yours,

E. B. King
President

October 21, 1988 File:DrHLSpec

PLANS AND SPECIFICATIONS FOR DRUM MINE HEAP LEACHING

NO. 2 HEAP

No. 2 Heap was permitted 10/4/83 and constructed starting in February, 1984. Its dimensions are approximately 650 x 450 feet (6.7 acres), and its height varies from approximately 5 to 20 feet. Records indicate that about 250,000 tons of ore with a high clay content was put onto the heap, and that part of this was subsequently removed and restacked onto other heaps.

This heap, along with others was inspected by SRK and certified to be in good condition (see letters in your files).

We propose to remove in stages all of the ore remaining on this heap, except for a protective layer of ore at least 3 ft. thick which would not be disturbed. Added to the 2 ft. protective cover originally laid on top of the liner before the ore was added, this will provide a total protective layer of 5 ft. of material above the liner.

In order to control the thickness of this protective layer, we propose to survey in grade control stakes before each layer is removed, using standard engineering techniques. Controlled, shallow (not to exceed 12") ripping of the finished, stripped surface may be used to insure permeability of the remaining ore; positive depth control restrainers will be used on this final ripping.

The ore removed from this heap will be mixed with other ore, with or without crushing and additions of lime and cyanide, and reloaded onto this heap or other heaps, as determined by operating conditions and equipment availablilities. Reloading onto the heaps will be via truck and bulldozer stacking, or by conveyor belts, as is common practice in the industry.

The maximum height of the heap will be 50 ft., or 45 ft. above the undisturbed ore left on the heap. Leaching will be accomplished using standard systems now in place on the property. All previous permit conditions will be observed on this as well as other projects described below.

HEAP NO. 4/5

The history and permit status of this heap has been reviewed previously in this letter. It occupies an irregular area measuring roughly 500 by 1100 ft. (approx. 13 acres), with heights varying from 20 to 55 ft. The lowest heights are on the uphill sides; the greatest, on the downhill sides, with the top area of the heap being level in two tiers.

This heap was inspected by SRK recently and certified to be in good

condition for continued leaching (see reports in your files).

We propose to add more ore to the top of this heap to a total height not to exceed 75 ft. at any point on the heap. The new ore which will be stacked on top of the existing heap will be set back 25 ft. from the existing edges of the heap. This safety bench will be provided to insure stability of the existing heap slopes, as well as to insure that any sloughing which might occur on the slope of the newly built, crushed ore heap will be retained on top of the existing heap.

It should be pointed out that the total height limitation of 75 ft., when starting with about 50 ft. on the downslope side, limits the new heap height to about 25 ft. Thus, in addition to the natural slope of the heap, this 25 ft. bench provides an additional 1:1 safety factor in the most critical area.

In any uphill areas where the newly built heap height exceeds 25 ft., additional safety benches will be provided around the perimeters in a similar manner.

The ore which will be stacked on top of this heap will be a combination of ore removed from other heaps, as described herein, or newly mined ore from the surrounding mines. Stacking and leaching methods will be as described for No. 2 heap above.

HEAPS 6, 8, & 10 = (LG3)

Preliminary examination of the ore and physical layout of these heaps has led us to the conclusion that these heaps will not support continued leaching as they are. Hence, it is our plan to evaluate removal of the ore, crush and restack on to other heaps (as described above), or if that is not economically attractive, to initiate reclamation procedures as called for in the appropriate permits. We hope to reach a decision on these heaps within six months. Meanwhile we will start removal of leaching lines and systems, as required by either course of action.

HEAPS 7 & 9 (LG2)

Preliminary studies indicate that these heaps are in very good condition, probably will bear the expense of continued leaching as is, and were constructed according to all permit regulations in existence at the time. Their location is such that excellent opportunities exist for ground water monitoring on the lower perimeters, should a backup leak detection system be desireable.

Accordingly, it is our plan to submit to your agency within the next few months testimony as to the construction of these heaps, evidence of the proper installation of the leak detection systems, and an additional report by a consulting engineering firm to substantiate the report by SRK, which you have on file, that these heaps are in good condition for further leaching.

ENGINEERING ASPECTS OF HEIGHT OF HEAPS

During the meeting with your staff in your offices on September 27th two questions were raised concerning the safe limits to the height of heaps, pertaining to:

1) The foundation strength. It is evident from the known geology of the pad areas that all of these pads have been build on solid rock which has been covered by the required sub-base material only. Thus, we do not see any engineering justification of a limitation on heap heights due to this factor. Please refer to file reports by SRK and WSMC.

2) The crushing strength of the leak detector and/or other drainage pipes which are buried at the base of the heaps. Attached for your ready reference is an engineering reference prepared by Poly Pipe Industries which provides a good discussion on this problem with reference to buried plastic pipes. It is to be noted from the graphs included that the earth load on small diameter pipes, such as are buried under these heaps, reaches a maximum of less than 200 lbs. per linear foot for 4" diameter pipe (and less than this for smaller diameters) with a cover of about 10 ft. Thereafter, it makes little or no difference how much deeper the pipe might be buried.

As we have substantial experience with plastic pipe burials in these heaps of 10 ft. or more for a number of years, there appears to be little reason for concern in extending the height from 30 or 40 ft. to double that as proposed here. Furthermore, there are in Nevada and Montana (and probably in Utah) examples of years of successful operation of heaps with heights exceeding the proposed levels.

Thus we believe that there are no engineering reasons not to grant the height limits requested for these heaps.

SUMMARY OF PERMIT APPROVAL REQUESTS

Based on the explanations and specifications contained above, we hereby request permit modification/approval for the following:

1) Continued leaching of heaps 1-5 until 12/31/90 and thereafter so long as economically feasible, provided that annual independent engineering review reports are submitted to your agency, indicating that the heap leaching system is sound and may be safely continued.

2) The removal of ore from existing heaps and restacking this ore onto existing heaps 1-5, together with newly mined ore as described above.

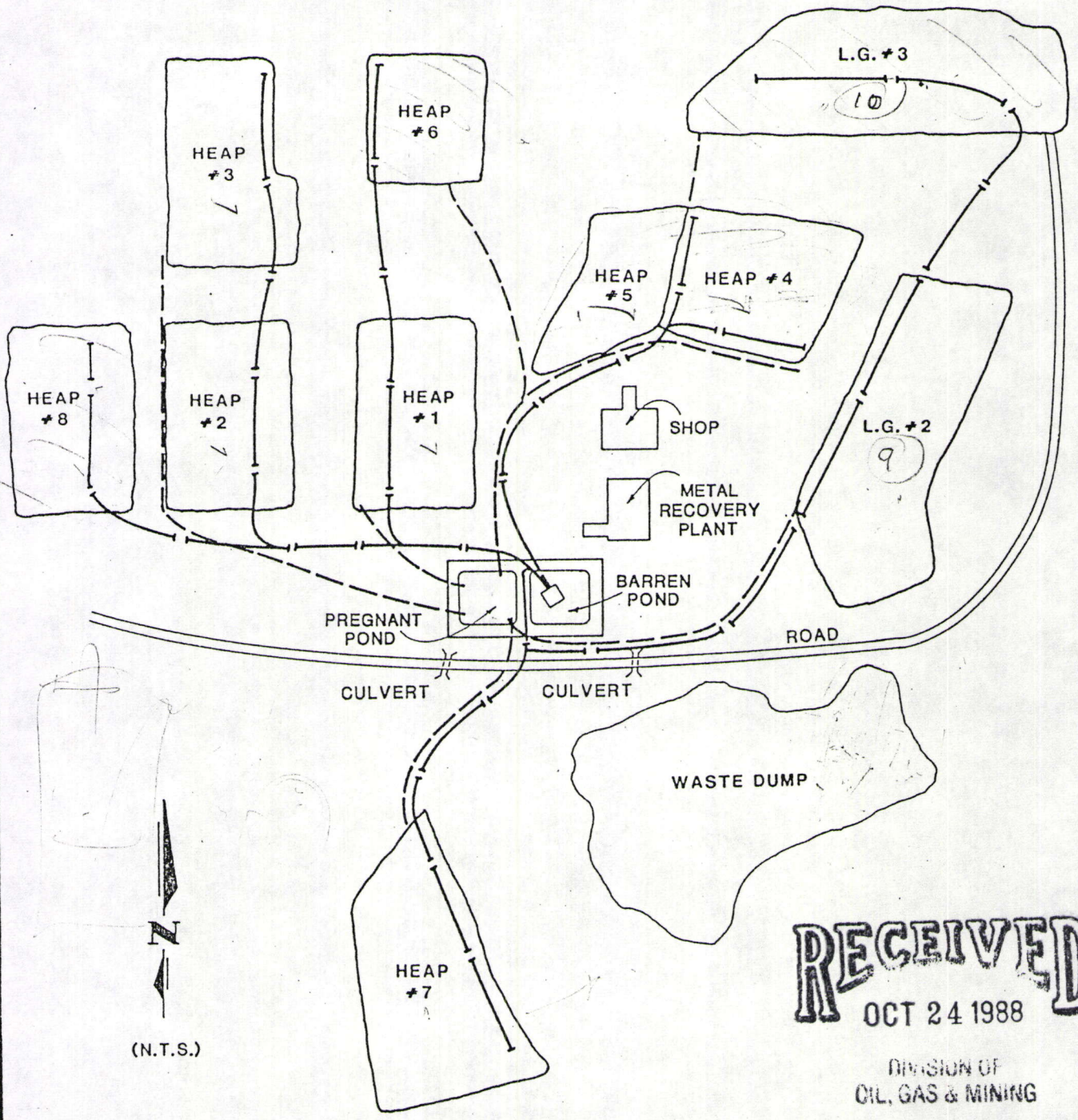
We would like to emphasize in conclusion that we are requesting permission, at this time, to continue the operation ONLY of those heaps which are known to have been properly permitted and constructed, and by doing so are using existing proven structures which have been operated safely for four years. That, by doing so, we avoid needless disturbance of new ground, as would be necessary if new heaps were to be

constructed, is worthy of consideration.

Your assistance and cooperation on this project are greatly appreciated.

Very truly yours,

E. B. King
President
Jumbo Mining Company



PROJECT No. 04407	STEFFEN ROBERTSON & KIRSTEN Consulting Engineers	FIGURE 1 DRUM MINE HEAP PLANS (AS-BUILT)
DATE 6/88		
REVISION 0		